

What is Claimed is:

1. A nucleic acid sequence which regulates expression of polypeptides involved in autolytic processes in bacteria.

5 2. The nucleic acid sequence of claim 1 wherein the bacteria is *Staphylococcus aureus*.

3. The nucleic acid of claim 1 wherein the bacteria comprises *Staphylococcus*, *Sinorhizobium*, *Listeria*,
10 *Clostridium*, *Baciullus*, *Corynebacterium*, *Brucella*,
Pseudomonas, *Shweanella*, *Mesorhizobium*, *Caulobacter*,
Lactococcus, *Mycobacterium*, *Burkholderia*, *Geobacter*,
Treponema, *Vibrio*, *Escherichia*, *Enterococcus*, *Salmonella*,
15 *Klebsiella*, *Bordetella*, *Actinobacillus*, *Streptomyces*,
Streptococcus, or *Acinetobacter*.

4. A nucleic acid sequence comprising SEQ ID NO:1 or SEQ ID NO:3.

20 5. A polypeptide encoded by the nucleic acid sequence of claim 1.

6. A polypeptide encoded by the nucleic acid sequence of SEQ. ID NO: 1 or SEQ ID NO:3.
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7. A polypeptide sequence comprising SEQ ID NO: 2 or SEQ ID NO:4.

8. A composition comprising a selected transposon and
30 the nucleic acid sequence of claim 1.

9. A vector comprising the nucleic acid sequence of claim 1.

10. A host cell comprising the vector of claim 9.

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11. The polypeptide of claim 5 wherein the bacteria comprises *Staphylococcus aureus*.

12. The polypeptide of claim 5 wherein the bacteria comprises *Staphylococcus*, *Sinorhizobium*, *Listeria*,
10 *Clostridium*, *Baciullus*, *Corynebacterium*, *Brucella*,
Pseudomonas, *Shweanella*, *Mesorhizobium*, *Caulobacter*,
Lactococcus, *Mycobacterium*, *Burkholderia*, *Geobacter*,
Treponema, *Vibrio*, *Escherichia*, *Enterococcus*, *Salmonella*,
Klebsiella, *Bordetella*, *Actinobacillus*, *Streptomyces*,
15 *Streptococcus*, or *Acinetobacter*.

13. A method for identifying agents which inhibit growth and infectivity of bacteria comprising identifying agents which inhibit expression of a nucleic acid sequence of claim 1 or activity of a polypeptide encoded thereby.

20 14. The method of claim 13 wherein the bacteria is *Staphylococcus aureus*.

15. The method of claim 13 wherein the bacteria comprises *Staphylococcus*, *Sinorhizobium*, *Listeria*,
Clostridium, *Baciullus*, *Corynebacterium*, *Brucella*,
25 *Pseudomonas*, *Shweanella*, *Mesorhizobium*, *Caulobacter*,
Lactococcus, *Mycobacterium*, *Burkholderia*, *Geobacter*,
Treponema, *Vibrio*, *Escherichia*, *Enterococcus*, *Salmonella*,
Klebsiella, *Bordetella*, *Actinobacillus*, *Streptomyces*,
Streptococcus, or *Acinetobacter*.

16. A method of inhibiting growth and infectivity of bacteria comprising contacting the bacteria with an agent which inhibits the expression of a nucleic acid sequence of claim 1 or the activity of a polypeptide encoded thereby.

5 17. The method of claim 16 wherein the bacteria is *Staphylococcus aureus*.

18. The method of claim 16 where the bacteria comprises *Staphylococcus*, *Sinorhizobium*, *Listeria*, *Clostridium*, *Baciullus*, *Corynebacterium*, *Brucella*, *Pseudomonas*, *Shweanella*,
10 *Mesorhizobium*, *Caulobacter*, *Lactococcus*, *Mycobacterium*, *Burkholderia*, *Geobacter*, *Treponema*, *Vibrio*, *Escherichia*, *Enterococcus*, *Salmonella*, *Klebsiella*, *Bordetella*, *Actinobacillus*, *Streptomyces*, *Streptococcus*, or *Acinetobacter*.

19. A pharmaceutical composition for use as an anti-
15 bacterial agent comprising a pharmaceutically acceptable vehicle and either an agent which inhibits the expression of a nucleic acid sequence of claim 1 or an agent which inhibits the activity of a polypeptide encoded thereby.

20 20. The pharmaceutical composition of claim 19 wherein the bacteria is *Staphylococcus aureus*.

21. The pharmaceutical composition of claim 19 wherein the bacteria comprises *Staphylococcus*, *Sinorhizobium*, *Listeria*, *Clostridium*, *Baciullus*, *Corynebacterium*, *Brucella*,
25 *Pseudomonas*, *Shweanella*, *Mesorhizobium*, *Caulobacter*, *Lactococcus*, *Mycobacterium*, *Burkholderia*, *Geobacter*, *Treponema*, *Vibrio*, *Escherichia*, *Enterococcus*, *Salmonella*, *Klebsiella*, *Bordetella*, *Actinobacillus*, *Streptomyces*, *Streptococcus*, or *Acinetobacter*.

22. A kit for identifying the presence of RAT polypeptides or comprising a means for analyzing a biological sample for the presence of a RAT polypeptide, whereby
5 detection of a RAT polypeptide in the sample is indicative of the susceptibility to treatment for a bacterial infection.

23. A kit for identifying the presence of the RAT gene comprising a means for analyzing a biological sample for the
10 presence of the RAT gene.

24. A kit for identifying the presence of RAT mutant polypeptides or comprising a means for analyzing a biological sample for the presence of a RAT mutant polypeptide, wherein
15 detection of a RAT mutant polypeptide in the sample is indicative of the susceptibility to treatment for a bacterial infection.

25. A kit for identifying the presence of the RAT mutant gene comprising a means for analyzing a biological sample for the presence of the RAT mutant gene.